Electricity on the Farm

A Monthly Magazine for the Progressive Rural Family

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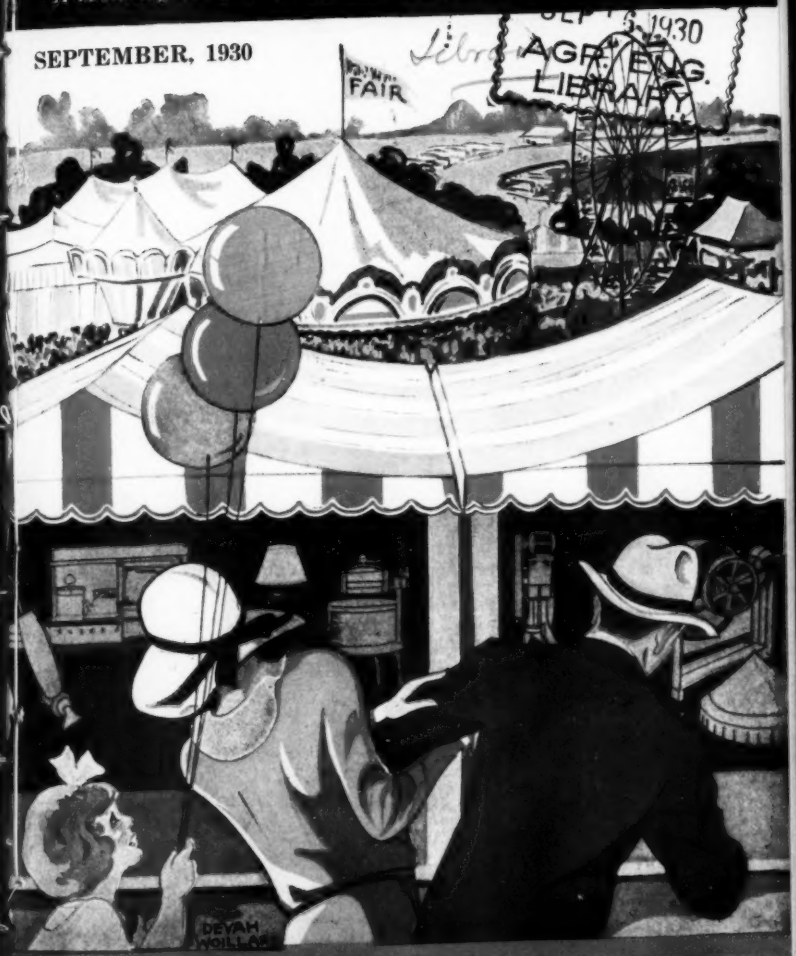

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Electricity on the Farm

Vol. 3 SEPTEMBER, 1930 No. 9

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Issued Monthly by
CASE-SHEPPERD-MANN PUBLISHING CORP.
(Successors to Farm Light and Power Pub. Co.)
Editorial-Executive Offices: 24 West 40th Street, New York
Western Office, 30 N. Michigan Ave., Chicago

KARL M. MANN, *President* I. H. CASE, *Vice-Pres. and Gen'l Mgr.*
FRED SHEPPERD, *Editor* K. H. GORHAM, *Advertising Manager*

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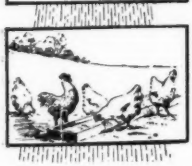

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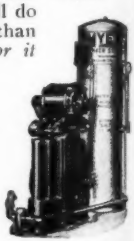

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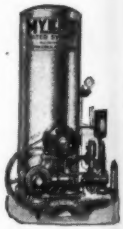

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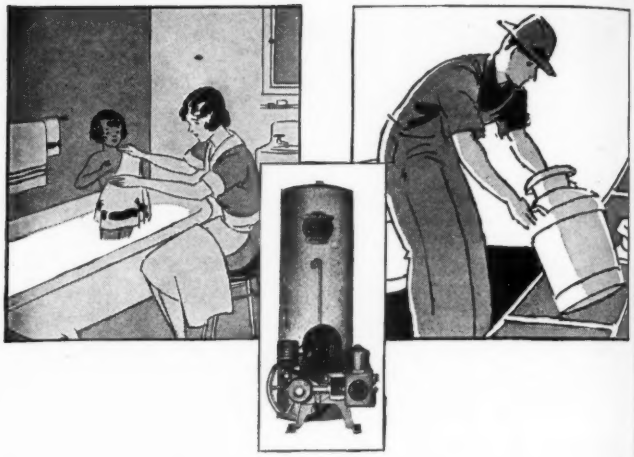

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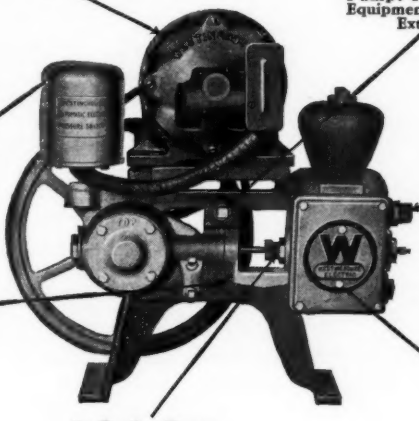
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GENERAL ELECTRIC

Electricity on the Farm

Vol. 3 SEPTEMBER, 1930 No. 9

Insuring Crops

The recent drought has again emphasized the uncertainty in certain types of farming. Some wheat raisers and a great many corn growers have had to stand by and watch the destruction of their crops by a prolonged absence of rain.

On the other hand, some of the farmers of the drier sections of the country, who have always had to depend upon artificial irrigation, report normal crops.

While artificial irrigation is not adaptable, nor suitable, to all sections of the country, there are many localities in which provision for such irrigation in the event of necessity would eliminate a great deal of uncertainty.

With a plentiful and dependable supply of water on hand, and with fields suitable for irrigation, it requires but a comparatively small investment to provide the necessary equipment and facilities for irrigation in the event of a drought.

An example of ingenuity in forestalling crop damage during the past month has recently come to light. A farmer in the middle west had a large potato crop in, and as in the past, had depended solely upon normal rainfall to provide necessary irrigation. But when the drought struck his locality, he anticipated that it might be longer in duration than usual, and promptly proceeded to secure a low lift centrifugal pump which could be driven by his five horsepower chore motor.

Passing through his field was a good sized stream which had never been known to dry up, and when he found that his potato crop would die if it did not have water, he promptly hooked up the pump to the chore motor and with the aid of sheet metal pipe which he was able to secure in a nearby city, he soon had a healthy stream of water flowing through his field. His crop, he says, may be slightly smaller than the usual, but with anticipated higher prices, which seem inevitable, he is in line to make a very healthy profit from his investment in pump and pipe. More than this, he will have equipment on hand for future. Thus he has provided an insurance against crop failure due to drought, which should pay him big dividends in ease of mind as well as in crop returns.

The time is not far off when many other farmers, suitably located, will, too, maintain pumping equipment to prevent their crops from burning up in the event of droughts.

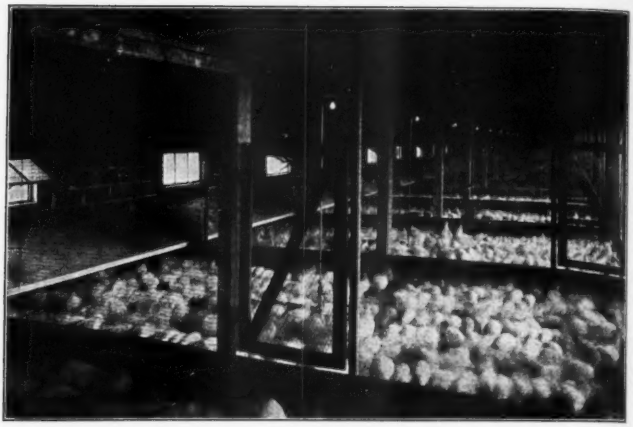


Fig. 3. Small wattage lamps used for all night lighting on this Virginia poultry farm prevent crowding and at the same time permit feeding at all hours. This means faster gains

Poultry House Lighting

A Review of the Essentials Which Must Be Considered in Order to Get Results

By Lee C. Prickett

IT IS now common knowledge that good management for high producing flocks includes a working (eating) day of from 12 to 15 hours, as well as proper feeding and housing. The farther north we go the more serious this need becomes. In fact, in such places as Norway and Sweden, practically no winter eggs can be produced without the use of artificial lighting.

Use of Light

Some of the commoner uses of lights for poultry are:

1. Bringing late hatched pullets into production while eggs are still high priced. Apparently two months can be added to the laying season of late hatched pullets without affecting their production for the months that follow.
2. Bringing breeding or laying hens quickly into production —in summer or winter—after a rest or molt.
3. Lengthening the feeding day and increasing the daily gains of broilers.
4. All night lighting to prevent stampedes among ducks and ducklings, and crowding among chicks. Lights—often lanterns—have been used for this purpose by eastern duck men for well over 30 years.
5. Prevention of cannibalism among chicks by darkening the windows and using green bulbs. Such lighting, of course, is most frequently found in

use with battery brooders.

6. Protective lighting. A light or so around the poultry houses has been found very effective in preventing thievery. Some poultrymen have their burglar alarm so hooked up that at the same time an alarm is given by the opening of a door or window the houses and yards are flooded with light.

Early Development

Where electric service is available, it obviously furnishes by far the safest, cheapest and most satisfactory artificial light. One of the first users of lights for poultry was a Michigan teamster who found that the lights from his stable, shining into the end of the poultry house while he was feeding and caring for the horses made the hens get up and eat their breakfast, long before daylight. Since that pen consistently produced more eggs, he had his entire henhouse wired.

Professor J. G. Halpin, then of Michigan Agricultural College, was the first to carry on lighting tests at an agricultural college (1907), but since then, lots of work has been done at various experiment stations and colleges. The use of lights did not begin to grow rapidly in popularity until 1918, following the World War.

Methods of Using Lights

There are five different methods of lighting poultry houses:

1. *Morning lighting*, which is the most popular because no dimming or special feeding is required.
2. *Evening lunch system* commonly used by those who find it inconvenient or impossible to be at home in time for the evening feed of scratch grains.
3. *Evening lighting*, not very popular—probably because some method of dimming is required.
4. *A combination* of evening and morning lighting which is, theoretically, the most satisfactory, due to greater uniformity. It is not commonly used as yet, but is increasing in popularity.
5. *All night lighting*. This system is used for both chicks and layers. As mentioned above, in the east, green lights are being successfully used in chick pens to prevent cannibalism; colors are so completely changed that the chicks lose interest and quit pecking.

Fig. 1—Shallow bowl RML reflector—the type commonly recommended. A durable one composed of enamelled steel

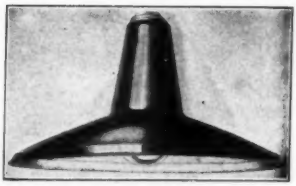


Fig. 2—Flat cone enamelled steel RML reflector. Type for use where extra wide distribution is needed

Light Density

In the all-night lighting recommended by the poultry department at Ohio State University, very small lamps are installed near the feed hoppers, such a system being particularly well adapted to the all-mash system of feeding. (See Fig. 3.) Professor Fairbanks of the N. Y. State College of Agriculture recommends one 40-watt lamp and reflector for each 200 square feet of floor space; 50 or 60-watt lamps being better where the chicken house walls are quite dark or where the lamps are not kept free from dust. In actual practice 25-watt lamps and reflectors are often used for each 200 square feet of floor space and in many places a 100-watt lamp and reflector is used for each 300 square

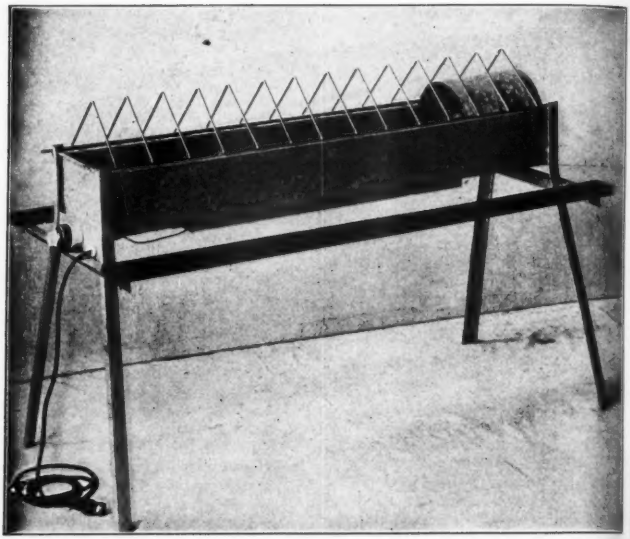


Fig. 5—An Immersion Type Poultry Water Heater
Water, as well as feed, must be provided if lengthening the birds' working day is to be effective. To prevent the formation of a scale of ice a water temperature of not less than 40° F. is desirable.

feet of floor space. Each system has its advocates and they all seem to be effective.

Location of Lighting Units

Professor Fairbank's recommendations, which are widely recognized as good average practice, feature 40-watt lamps and reflectors at 10-foot intervals throughout the length of the house, the first and last, of course, being 5 feet from the ends. These outlets should be located about half way between the front edge of the dropping boards and the front of the house, and at such a height that there are no dark corners either on or under the roosts where the chickens can collect and sleep or loaf. Normally, the bottom of the reflector should be 6 (six) feet above the floor but in the type of houses recommended by the University of California, which are 16 to 18 feet wide, a height of 7 feet is generally used. For maximum efficiency the bottom of the dropping boards should be three feet above the floor.

In a house 25 feet long, two outlets with fairly large lamps should be satisfactory. Where 100-watt lamps are used they are generally placed 15 feet apart, but the location from the front of the house is the same as with the 10 foot spacing.

Reflectors

In the average house, reflectors should be used for without them practically half of the light is lost. Furthermore, unless reflectors and lamps are kept comparatively free from dust and dirt their effectiveness may very easily be reduced 50 per cent or even more. If the interior of a chicken house is kept well whitewashed reflectors may not be required. Home-made reflectors 16 inches in diameter by 4 inches deep, made of sheet metal and covered with two or three coats of aluminum paint can be used. But most generally RLM Shallow Bowl reflect-

ors are used. If the chicken house is quite wide a flat cone reflector may be better. The best reflectors are made of enamelled steel, some of the equipment on the market being merely painted and absorbing, instead of reflecting, a considerable portion of the light. When new they resemble high grade equipment but in a few months the paint generally starts to peel off. Good reflectors are not unduly expensive.

Reflectors should only be used with lamps for which they are designed.

Water Heater Outlets

Furthermore there is evidence that taking the chill off the water will cause the hens to drink more of it, and thus prevent the drop in production that so often occurs during cold snaps. The advantage of using electric fountain warmers should be considered when the house is being wired.

For breeders which have not completely recovered from molting, a 12-hour day is best, 13-hours being satisfactory when they are back to normal, providing the birds are of good quality and are high producers. From 13 to 14 hour days are used with late August or early September molters and well matured pullets of good size and vitality, but not of the highest production quality, whose eggs will not be used for spring hatching. Longer days are being used and the flock require careful handling.

Control and Dimming

Good automatic switches are

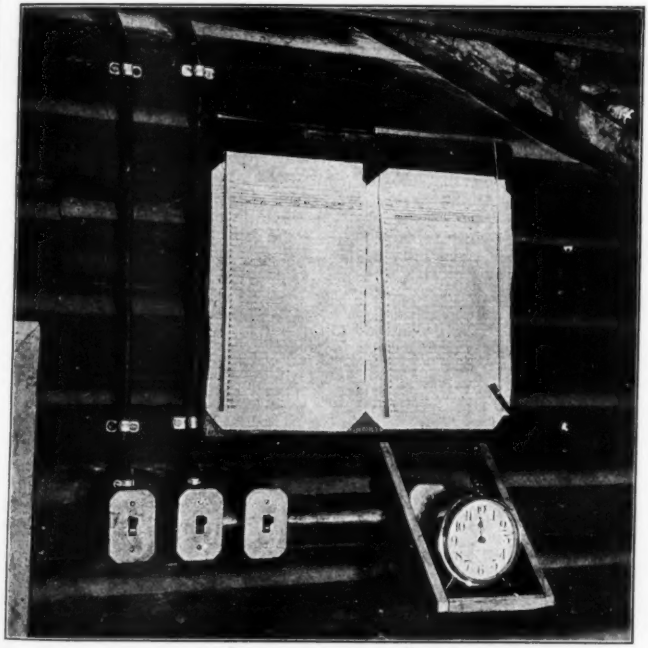


Fig. 4—The lights for two laying pens are controlled by this alarm clock, the switch handle, or arm, being placed between the metal sides of the alarm winder

available which will turn the lights on and off and some are equipped to take care of the dimming. Many poultrymen control the lights by hand or else operate them with one or two alarm clocks. For example, the alarm-winding key of a clock can be slipped over the snap button of an ordinary toggle switch. (Fig. 4.)

Most poultrymen so regulate their feeding that dimmers are not necessary. Where scratch grains are fed this is quite simple. For example, in the evening lunch system the light should be left on until the birds eat and go back to roost. For the first few nights they should be left on an hour but later a half hour will be sufficient.

Anyone who wishes detailed information on dimming will find it in Washington Agricultural Experiment Station Bulletin No. 134, "Methods of Dimming Lights for Poultry Houses."

Energy Consumption

The average energy consumption for the latitude of New York City or Chicago is probably around 3.0 kw. hrs. per 100 birds per month (during the short-day season of four or at most, five months) but varies widely with conditions, all the way from two to nine, or even more, kw hrs. per 100 birds per month.

Conclusions

About two months can be added to the laying season of late maturing pullets without apparently affecting their production for the following months. However, unless the use of lights is accompanied by good feeding and management, the best results cannot be obtained. The high producers should be segregated from the medium and low producers.

The urgency of need for artificial illumination decreases proportionately as the birds mature and as the flock improves in feeding capacity; also, with longer days—whether due to latitude or season.

1. "Artificial Illumination of Poultry Houses for Winter Egg Production," by F. L. Fairbanks and J. E. Rice (Revised in 1929), 39 pages of detailed instruction on the use of lights; Cornell Agricultural Experiment Station Bulletin No. 90, available at the New York State College of Agriculture, Ithaca, New York.

2. "Artificial Lighting for Poultry Houses," R. E. Gray (1927-16 pages), Ohio State University Agricultural Experiment Station Bulletin No. 56. This publication contains a field survey of 756 lighted and unlighted farm flocks and is available at Columbus, Ohio.

Hardwood Ashes

Gardeners frequently ask if coal and wood ashes make good fertilizer for garden soils. According to the United States Department of Agriculture, wood ashes from hardwoods contain considerable potash and a little lime, and are a valuable fertilizer. Fairly dry unleached hardwood ashes may be applied at the rate of not more than 50 pounds to 1,800 square feet. Wood ashes from softwoods, and hardwood ashes that have been exposed to the weather and have had the potash leached from them have little fertilizer value. Coal ashes have little value as fertilizer, their use being mainly to loosen the soil and make it more workable.

Three Aids to Happy Living

Friendliness, healthful living, quiet—all these make country life satisfying, but the Watson family in Monongalia county, West Virginia, decided that these were not enough. They wanted running water, electric lights and a furnace.

The story of their water system starts at the spring up above the house on a typical West Virginia hillside. Water is piped from here to the house, and a tank which connects with the heating system provides hot water as well as cool drinking water fresh from the spring. A shower bath and indoor toilet temporarily complete the water system, but a complete bathroom is next in line.

Electric Energy is
Cheap Power

By H. J. GALLAGHER
Agricultural Engineering Dept.
Michigan State College

IS electricity a cheap source of power, or is this merely a beguiling term to lull our suspicions while the meter keeps turning up kilowatt hour after kilowatt hour? The truth of the matter is that on certain rates and under certain conditions electricity may not prove so cheap. The most universal condition under which electric energy may prove expensive is when not enough of it is used, when the monthly use is limited to stay within the highest unit cost of the rate. Or it may prove expensive when the cost per K. W. H. remains constant and does not decrease as use increases. Many of the power companies in the country have established a sliding scale rate in which the cost per K. W. H. does decrease as the use of energy increases and under practically all of these rates electricity is a cheap source of power.

During the past few years the vocabulary of agriculture has been broadened by many new electrical terms, but they have come so fast and in such a short time that it would be surprising if some confusion did not exist as to the relation of these terms.

Take, for instance, the cost per K. W. H. The same power company that starts with a rate of ten cents per K. W. H. may also have a six or even a four cent rate, and possibly some of us wonder if the low rate is a special

Figure 1. The meter on this 5 H.P. motor registered 760 K.W. Hours as the amount of electricity required to fill eleven silos, elevate 5000 bushels of grain, buzz 100 cords of wood, cut five tons corn fodder and run an emery wheel.

Figure 2. This ½ H.P. motor in three years pumped 264,801 gallons of water at a cost of $16.20. Hand pumping would have required 88.2 ten-hour days of hard labor to pump the same amount of water.

consideration because we use power. It is not. We actually earn the privilege of the low rate by shaking off the shackles of tradition and doing things in a better and more efficient way, that is, by using more current we are entitled to the low rate.

Under some rates a low step is reached about the time enough electricity has been used for good lighting, operating the washing machine, the iron, the vacuum cleaner and a water system, all indispensable uses where electricity is available. Having reached such low step of the rate, continued use is very cheap. We hear authentic reports of an energy consumption of only 75 K. W. H. to fill a 12' x 40' silo, a 25 K. W. H. consumption for grinding a ton of grain, and other low operating costs of like nature. I am personally familiar with these operations and though I had a rather full appreciation of what it was all about, yet I was amazed recently at this same information viewed from a different angle.

Motor Equipped With Meter

I gained this new viewpoint from the equipment shown in Figure No. 1, which is merely a 5 H. P. motor mounted on a truck. This motor was installed on the Michigan Experimental Electric Line, August, 1927. As shown by the cut it is equipped with a watt hour meter so that the exact amount of electric energy used on any job can be determined. Since the motor was first operated all of the current used has been recorded on the meter. This motor has become the "chore boy" of the farmers on the Mason Dansville Line and in the past three years it has filled eleven silos, run the emery wheel to keep the cutter knives sharp, it has elevated over 5000 bushels of grain from the threshing machine to the storage bins, buzzed over 100 cords of wood, cut five tons of dry corn fodder, and worn out one emery wheel sharpening plow points.

Read this list of accomplishments over again and then let us look at the meter and see the total amount of energy registered there. The meter reads 760 kilowatt hours. At five cents per K. W. H. this would amount to only $38.00 and beyond question shows electricity as the cheapest of all farm power.

Labor Saver

In addition to low operating costs, electricity possesses other advantages. For the past three summers threshing and silo filling have lost their dread for the wives on the farms where this motor was used. The motor has displaced the men that formerly handled the threshed grain and has ripped asunder the tradition of a large crew to fill the silo. Today I saw this motor wheeled into working position before the large woodpile of Figure 1. It looked rather small and insignificant in comparison with the woodpile, but I know that in a few days a mound of sawdust and a few extra K. W. hours on the meter will be additional proof of another job cheaply and quickly done.

As important as the 5 H. P. portable motor is proving for doing big farm jobs, the smaller electric motor must not be ignored. It is the smaller, less spectacular motor operating on its own particular

job, giving an excellent account of itself day by day, that is proving indispensable to agriculture. The ½ H. P. motor of Figure No. 2 automatically operates a deep-well pumping-head. It pumps the water used on a 240-acre stock farm. In three years it has pumped 264,801 gallons of water on 540 K. W. hours.

Only 180 K. W. hours a year for water in the home, bath and toilet, and a supply of water for the stock at all times!

Those 264,801 gallons of water would fill 26,480 standard milk cans. For one man to pump that much by hand at 40 strokes a minute on a pump with 3" cylinder and 6" stroke, would take 882 hours or 88.2 ten-hour days, and each downward stroke of the pump handle on this 120' well would require a push of 52 pounds. Yet there are farmers actually doing this amount of manual work that electricity could do for us little as $27.00 (at a 5 cent rate). Of course, they do not pump ninety continuous days, but the grand total is there nevertheless. Like the story of the salesman's overcoat, it may not show up in his expense account—but it is there.

While we are discussing cheap power let us look at the one H. P. motor shown in Figure No. 3. This motor on the farm of Walter Carven, Mason, Michigan, has consumed a total of 876 K. W. hours in two years. It operates both a feed grinder and bucket type elevator. It has ground the feed for twelve head of cattle and has elevated 150 tons grain, that Mr. Carven used for lamb feeding. The total energy used was about 850 K. W. hours.

Other Appliances in Use

In addition to the motor and lights, Mr. Carven has a water system, a milking machine, an electric range, refrigerator, washing machine, iron, vacuum cleaner, percolator, popcorn popper, and radio. The entire energy bill is paid for by the savings effected through the one H. P. motor in grinding and elevating grain.

These are but a few illustrations of electricity as cheap power. On the Mason-Dansville Line there are other meters on other motors that are recording amazingly low

(*Continued on page* 31)

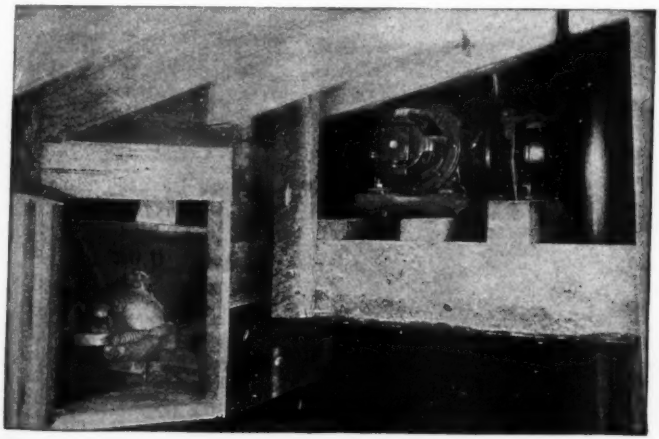


Figure 3. This one H.P. motor has ground grain for 12 head of cattle and elevated 150 tons of grain in two years for $25.28.

Grinding Grain Where It Grows

By E. R. MEACHAM

Mr. Lange's feedroom in the corner of the farm. He draws ground feed from the straight wooden spout

DAN KILDAY'S threshing rig finished up the jobs in Smoky Hollow last week. With corn getting pretty scarce and high in price everybody was anxious for the new supply of small grain. The barley especially comes in mighty handy for finishing off pigs farrowed last spring. To do them the most good at this stage it must be ground. Whatever road I travel I see loads of grain going to the mill. But with everybody bringing in his new grain at once, it is almost impossible to take home the grist the same day. That makes a second trip necessary.

My neighbor, Chet Marty, no longer joins the grist parade. He grinds his grain right on the farm where it was raised and where it will be marketed through a good bunch of live stock. I was at his farm one day when a man from over in the next county was dickering with him for some Guernsey calves. The man's name was Place, I think, Howard Place.

Place asked him why he went to the expense of buying his own feed mill and why he had gone to so much bother about its installation.

"The installation is the whole thing," Marty replied. "You could grind feed in a coffee mill or crush it between two stones as the Indians did, and the product would do the cattle and hogs just as much good as the meal from the finest mill you ever saw. But in this day of stiff competition, you've got to let your head and lead pencil save your back and scoop shovel.

"But to answer your question directly, I bought that mill to save me the time of sacking my grain, hauling it to town, unloading it there and either waiting around half a day or going back some other day to get it. And even when I get it home, I've got to lug it into feed bins for the cattle and hogs.

"Besides the saving in time and labor, I bought it to save the money I pay the miller. You know custom grinding at ten or twelve cents a sack amounts to between two and two and a half dollars a ton. But since I hooked on the power line, I can grind a ton of mighty good cow feed for fifty cents' worth of current with this 5 H. P. motor."

"I used to have a little mill that I ran with a gas engine," Place told him. "But it was so slow that

I soon got tired of waiting for it."

"Waiting for it," echoed Chet, "Well, you may be sure I don't wait for this. The way I've got the mill rigged up, it does all the work by itself, and it doesn't make any difference whether I'm there or not. To be sure it doesn't grind very fast, but I don't care about that. It saves my time—and its time isn't worth anything, for it has nothing else to do. Come on back to the barn and see the way it's rigged up."

Simple But Effective

Knowing that I would see the latest model of a hammer type mill as well as a carefully thought out installation, I followed the men to the barn and down the feed alley in front of the cow stanchions. There sat a squat, solid little machine, only about three feet high to the top of its square, sheet iron hopper.

Both the upper and the lower halves of the housing are solid cast iron, machined so they make a tight joint where they fit together. For this hammer mill, and others like it, have only one moving part, a heavy shaft, mounted in ball bearings and carrying the very hard steel bars called hammers that beat the grain to pieces when the shaft turns at high speed.

The drive pulley is on one end of this shaft. On the other end, outside the cast iron housing, there is a fan. When the mill is running, this fan sucks the ground feed out of the bottom of the mill and blows it up a four inch pipe.

Chet explained to Place that this was much the simplest type of elevator because it did not require any extra belts, chains, or gears for driving it, and also because the discharge pipe could be led where an ordinary straight elevator could not possibly be installed.

"How often do you fill that little hopper?" Place asked.

"Just once for each grinding,"

Mixing a ration of home ground grains. The big hopper at the left leads down to the feed alley

said Chet, "and it stays full till the grinding's done. Don't you see those chutes? I fill the hopper by pulling one of those slides."

He pulled one back a little as he spoke and let a stream of oats pour down into the hopper of the mill.

"When I got the mill, I partitioned off some bins on the haymow floor and keep my grain right overhead here."

"Yeh," Place replied with a short laugh. "I'm glad I don't work on your threshing crew. It would be just my luck to draw the job of carrying grain up into your haymow." "Carry nothing," scoffed Chet, "since I put the grain up there so it will run down into the mill ,I make the mill do the carrying. I bought it with an extra hopper that fastens on the outside of the fan housing. The grain from this hopper runs into the fan without going through the hammers. Last week when I threshed, I set the mill up in the driveway and put the end of the blower pipe into each bin I wanted filled. Then as the grain came from the separator, we dumped it into this extra hopper and the mill put it where we wanted it.

Wm. Noyes' arrangement. The motor drives the mill direct. The line shaft is for other use

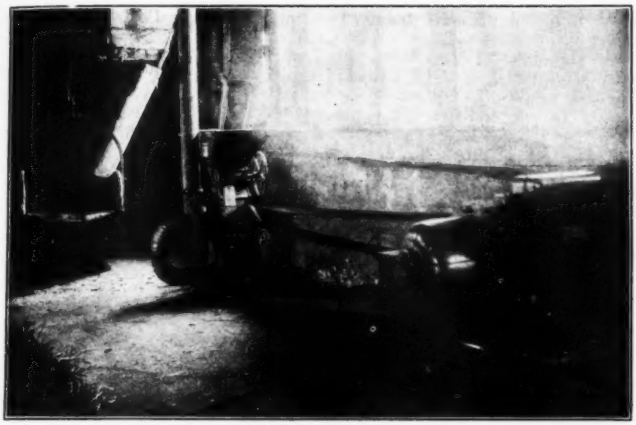
"The hardest work anybody does in handling grain on my threshing job is just dumping the sacks in this hopper, and here again the mill saves me several day's time. By using it this way, I avoid changing work with the three or four men I would otherwise need."

The bottoms of these grain bins are flat on the haymow floor, for it is not necessary that such overhead bins emptied only once or tiwce a year, have sloping bottoms. But the bins for his ground feed are deep and narrow, and the bottoms slant downward at an angle of sixty degrees.

Feeding Process

These bins open right in front of the cow manger. At feeding time he runs a big feed truck under the spout, pulls a slide, and lets it fill. Then he rolls the truck down the alley, shovelling the rations out before each cow. If it is pig feed he wants, he pulls a different slide, rolls the loaded truck out through a door at the end of the alley and down a concrete walk to the hoghouse. His grain need not be touched from the time it comes from the threshing machine until he feeds the meal.

Another man, Clifford Capener, of Baraboo, has a neat scheme for grinding a properly mixed ration of the grains he grows. At first he put the chutes from the various bins into the mill hopper and opened the slide varying amounts to get the proper mixture of oats and corn, for instance. He soon learned that if the slide was open so the grain would run at all, it would keep each pipe full all the time, and he could not control his mixture. So he figured out the proportions of the different grains that would give the proper ration for his cattle and sheep and had the local tinner make short sheetiron funnels or nozzles for the ends of his grain pipes. The areas of the openings in these nozzles correspond to the



Set-up in a feed alley showing feed carrier under the meal spout

proportions of each kind of grain he wants. With this simple arrangement he gets his mill to mix his ration as well as grind his grain.

One of the attachments of Marty's new mill is an auxiliary hopper through which mill feeds, ear corn, or even a small amount of roughage can be fed into the mill, either alone or to be mixed with the grain from the main hopper.

Operate at High Speed

The chief difference in operation between these new hammer mills and most other farm machinery is the very high speed at which they run. 3,500-4,000 R. P. M. is recommended, and if the speed falls much below this, they will not usually do very good work. This requires in the first place that the mill be fastened down firmly to a solid foundation. Chet Marty fastened his with bolts in the concrete floor. To get the necessary speed, with the ordinary 1,800 R. P. M. motor requires a nine-inch pulley on the motor for a four-inch pulley on the mill. The belt should run direct from the motor to the mill without any line shaft or jack shaft in between.

Driven by a nine-inch pulley on an 1,800 R. P. M. motor the belt will travel more than 4,000 feet a minute and will be continually bending around the four-inch pulley on the mill. This means that it must be thin, light, and so flexible that it will hug the pulleys and not be thrown by centrifugal force. Single ply, water proof leather is best, but three ply endless rubber is also good. It need not be more than fifteen to thirty feet long altogether, but it had better be endless so as to avoid any difficulty with lacings.

When used for elevating grain, the mill should not be run even half as fast as for grinding. Higher speeds cause the fan to crack the grain.

Factors Affecting Capacity

The capacity of the mill, that is the rate of grinding, and the energy required vary a great deal with the fineness of the grinding and, naturally, with the size of the motor used. The kind of grain also makes a big difference, and its condition, especially its dampness or dryness, is also important.

Regarding the cost, the Wisconsin College of Agriculture has this to say:

"One kilowatt hour of energy will grind from 35-300 pounds. It

requires 7-60 kilowatt hours to grind a ton. To produce a fineness suitable for ordinary cow feed requires from 7-15 kilowatt hours a ton."

The cost in dollars and cents will depend upon the local rate.

The Wisconsin College also gives the following as the annual overhead cost of owning such a mill:

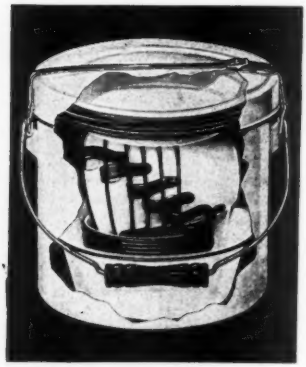
Assume first cost...$90.00	
Assume total life..16 years	
Depreciation 1/16 of $90	$5.62
Interest	
($90.00 plus $5.62)	
——————— @ 6%	2.87
2	
Repairs	1.00
	$9.49

It's Picnic Time in the Woods

By KATHERINE GOEPPINGER

WHAT could be handier than this compact picnic set when the lure of the open road beckons us for a meal under nature's canopy?

For those who object to paper plates and cups, a white enamel outfit is ideal for touring. When an appropriate luncheon spot and water have been located, the pail can be used for carrying water or cooking coffee if necessary. In addition to six plates, the set includes small side dishes and a large serving bowl. The cover inverted will perform too as a serving plate! The best part about these dishes is that they are just as good as china for serving hot foods, but there is not the danger of breakage in driving over rustic by-ways.



This white enamel outfit, consisting of plates, cups, side dishes, and a large bowl, is a handy device for tourists

Cooperation Pays

By A. E. HALTERMAN

MOST farmers do not realize the importance of cooperation with his neignbors in securing the line and with the power company in using a large enough volume of current to make rate reductions possible. This suggests a possible way for farm organizations to render a real service to the farmers, in securing and disseminating information to them about new uses of electricity that are profitable to the farmer and new devices that have proven successful under farm conditions.

Every rural organization should have an Electric Committee, to study and keep in touch with every phase of electricity as it is applied to the farmer. They could hold schools and short courses with electric specialists and representatives of the state university to inform them and help them in the uses of electricity on the farm. This committee should be the adviser for the members of the organization and should report regularly at its meetings giving all new information gathered for the organization. It should act as the agent for the farmers in securing electric service in that territory and should assist in public demonstrations, and experiments and help in every way possible to secure complete electrification for the farmer, in the way that suits his needs best. They should deal directly with the power company and secure recognition and help through their rural organization. In other words the organized farmers owe it to themselves and their children to take advantage of electric service in their homes and in their business, and this can only be accomplished through cooperation.

This lovely little stand is on the road between Oshkosh and Fond du Lac

Travelling the Buy-Ways

A Housewife Looks at Roadside Markets

THE reasons for roadside selling are obvious. It, like the quality of mercy, is "twice blest. It blesseth him who gives and he who takes." If it did not, it would not survive.

I, myself, am a housekeeper, and I select the markets I buy from in the country as definitely as I choose them in town, and for much the same reasons.

The first is looks.

It was all very well for our grandmothers to purse their lips and say, "Fine feathers do not make fine birds," or "Handsome is as handsome does." But, today we think those prim platitudes need a general overhauling, for they only touch on half of the story. We recognize that the outward appearance is really the expression of the man within. And the looks of the stand and the yard, and the farm it represents, all show quite plainly the kind of housekeeping and farming that goes on there.

Good Appearance Necessary

A decade ago when touring was not the common thing it is today, we used to go camping up in the Blue Ridge Mountains with some friends, who had an eighteen months old baby. Part of our daily routine was getting fresh milk for Bobby before we made camp for the night.

The baby's mother, Grace, was extremely fastidious about where we stopped.

"Not there," she'd say, "Let's go on further. That place looks so messy."

Or:

"Oh, we couldn't get milk there. The farms and everything look so rundown. I'd never believe that the milk was really clean."

You see we who go past on the road can only judge from the looks of your farm whether we want to buy what you have to sell or not. We know nothing else about you. A yard that is strewn with wrecks of old machines and piles of decaying lumber will surely frighten us off, but often our judgment is formed unconsciously. We do not ordinarily lean far out of the car and peer at your yards with a critical eye, then say decisively:

"No, there is a door hanging on one hinge on that corncrib. We will not buy our potatoes there."

It is not so definite as that. If the place looks attractive and clean, we'll stop. If it does not, we won't.

I was thinking about that part of roadside selling when we stopped at some markets only this last week. So after we had left

We stopped here for vegetables and buttermilk one day. It is so clean and attractive that we are going back

the car and were making our purchase, I looked around to see what it was that made them inviting enough to persuade us to stop.

In each case, the background was the same—a well mowed lawn, painted buildings and an orderly farmyard where everything looked ship-shape.

The stands themselves were orderly, open, airy and clean.

Inviting

One place I visited stands out distinctly in my memory, because of its individual charm. It is a little stucco house on the edge of a wide, smooth lawn. Its roof slopes sharply down like an English house. On each gable is a window with a little iron balcony that looks like a picture of Italy or Spain. It is lighted at night by lanterns wired for electricity. We stopped there first before we had any idea what they had to sell, because it was so attractive.

Those who have studied the subject of this over the counter selling at the farm itself have much to say of location. They maintain that convenience of location is an important factor in success. They urge that people will not stop at the foot of a hill, because there they are always hurrying to make the grade; that they wil not stop at the top because they are usually speeding along at a right good clip when they strike level ground again. They have much to say of adequate parking space about the stand.

My husband and I were talking this over in an attempt to analyze just what effect the location of a stand had on our patronage, when he reminded me of a stand we have often visited in the fall when apples are ripe.

"Do you remember that it is half-way up a mean curving hill?" he asked. "We had to park on the gravelly shoulder of the pavement, too, but we have stopped there often for cider and apples."

"Yes," I agreed, "we could see it quite a ways ahead and, of course, we were always going fairly slow along there."

"I believe that's one of the most important reasons why we stop," my husband went on thoughtfully. "If we can see the place a long ways off; if it is shady and cool looking; if there is space about it—those are added attractions. You know that man who sells melons where the road makes a right angled turn out on the flats near Arena? You can see those green melons from way down the road whichever way you come so you have plenty of time to decide to stop."

Taste and Judgment

So in spite of the theories a study of successful stands has

brought forth, it seems to me that a man or woman with vision, with good taste, and with the energy to set forth his produce where the passer-by may see, has a good chance of success whether his farm lies uphill or down.

Lights for Night Buying

Like most city dwellers, we often drive a little at night, so the stand that is lighted and open during the early evening often catches our trade. Lights across the road, lights at the front of the stand, adequate lights within make buying easier.

These are the things that play their part in making me stop the first time. That second stop is another matter. That comes from satisfaction with the quality of the things I bought and with the price of them.

When I am cruising around within forty or fifty miles of home, I am generally interested in vegetables that are not ready or have never been planted in my own small garden. I am glad to buy them right out in the country, for I feel as though that were the next best thing to picking them myself if I want them fresh. And freshness, of course, is one of the major virtues of a vegetable.

I do not buy eggs that stand out on a table under summer suns, any more than I would buy meat that stood out there. But I do buy them from a place I know where the woman packs them in cartons and keeps them stored in her big electric refrigerator until they are sold. I believe that those eggs are fresh because she tells me so; I know they have been properly cared for.

The test of the breakfast table has never challenged her word.

In the fall I buy onions and big Hubbard squashes to store in my basement. My neighbor, with four small boys, often goes out with me and brings back a couple of bushels of tomatoes for canning.

At Lower Prices

I make some demur at paying exactly as much for things I must go out and carry back, as I would to have my grocer deliver them on my kitchen table. In other words, I expect a bargain just as the man behind the counter expects me to pay him considerably more than he could get from a commission man or canner.

Attract Attention

So far I have been talking only about the simplest roadside market, an outlet for vegetables grown on the farm. Patronizing them is largely a matter of business—efficiency in the business of housekeeping. But I have a weakness for the market that is different. When we are camping, I adore running on to a market where some woman sells cookies, or doughnuts or pies. When we are

A busy stand near Beloit, Wisconsin

touring, I love to explore the specialties the country offers. I have bought bean hole beans in northern Maine, fried clams in Massachusetts and watermelons in Georgia from roadside stands.

But I am not always craving food.

Going northeast from Quebec to Sainte Anne de Beaupre one year we came upon quantities of lovely things made by the French who live along the St. Lawrence. There were handwoven coverlets, blankets and rag carpets hanging from clothes lines and over picket fences. One sign naively remarked:

"TOURIST Carpets for Sale."

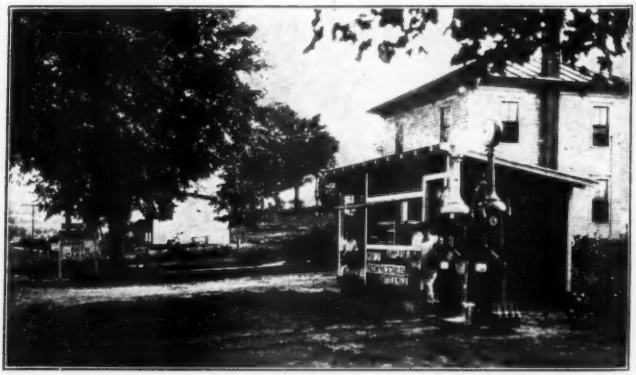
In Maine we have paused at stands where there were dozens of hooked rugs of marvelous design on sale. In northern Minnesota we have hung over Indian baskets and beadwork with rapt admiration.

It looks to me as though this matter of selling things resolved itself into two quite simple elements. Folks can offer me things they know from experience that I, and all the housewives like me, usually buy. Or they can create something appetizing, so interesting, or so surpassingly lovely, that I and other folks who had no idea they wanted it, will stop and buy. That may mean patchwork quilts or apple pies. They all have their place in the buy-ways of the countryside.

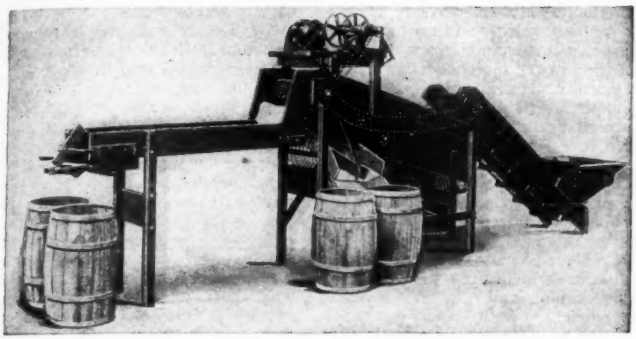
A Timber Farm

Neither cotton nor grain is being grown on the 1,842-acre farm near Star City, Ark., owned by H. H. Knipe, of Lawrenceburg, Ill., and managed for him by John Bradburn. The owner's plan, which Bradburn is following out with the help of County Agent W. A. Trussell, is to develop the tract strictly as a timber farm, according to reports to the Forest Service of the United States Department of Agriculture.

Most of the area is covered with a good stand of loblolly and shortleaf pine. The whole tract has been fenced, and firebreaks are being constructed. Bradburn has trails throughout the woods and patrols them constantly during dry seasons. The owner desires to make the farm a timber-growing demonstration, with a system of roads connecting plots on which approved forestry practices are illustrated. He intends to buy a portable sawmill and to cut a certain portion of his timber annually.



This neat little stand is near a popular State Park so tourists keep it busy



A triple belt electric power potato and onion grader. This grader has a capacity of 400 bushels per hour and is operated by a ¾ H.P. motor

Mechanical Grading or Sizing of Potatoes

By Chas. E. Seitz.

ACCORDING to Government marketing specialists, "The lack of standards, proper grading and careful handling cause enormous waste in the marketing of the Nation's potato crop. Wholesalers, retailers and consumers are demanding the use of grading and handling methods which will guarantee a more satisfactory product, that can be sold more readily and prepared for the table without unnecessary loss. The consumption of potatoes could be materially increased if nothing but well-graded stock were marketed."

Farmers' Bulletin No. 753 of the U. S. Department of Agriculture states:

"In many markets scores of men may be seen in cars sorting potatoes. Large quantities that are frosted, decayed, badly cut, bruised, diseased, or otherwise defective are thrown away. Usually these are the grower's losses and besides losing the invoice value of the defective stock culled out of these cars, he is also paying about twice as much for the labor as though he had graded the potatoes on the farm. The railroad receives the only full returns on such cars, for their charges are based on the quantity of potatoes hauled and not on the quality.

"Quantities of cull potatoes sorted out of supplies and sold to consumers may also be found in most retail stores that handle vegetables. Notwithstanding these losses by wholesalers and retailers, much undesirable stock is passed on to the housewife. This is a common complaint among consumers and they frequently ask why they do not receive better potatoes, stating that they do not buy and use as many potatoes as they would if good ones were always received."

I recently asked Mr. G. S. Ralston, Manager of the Standards Department of the Eastern Shore of Virginia Produce Exchange, his opinion as to the value of grading potatoes and other agricultural

products. Mr. Ralston's reply was, "We believe there is no matter of greater importance than standardization in the merchandising of any agricultural commodity. Quality and definitely established grades are essential prerequisites to satisfactory f. o. b. sales. This may be emphasized even more strongly where a large percentage of the business is consummated by telegram or telephone. Standardization by proper grading methods is then the only reliable basis of representation or guarantee in dealing with the buying public and likewise protects producer, dealer and consumer. Such a procedure unquestionably places merchandising of farm products on an equitable plane, enhances price levels and widens distribution. Without any reservation whatsoever we again emphasize that quality and standardization of the products to meet reasonable trade requirements are the foundation on which successful merchandizing is founded and maintained."

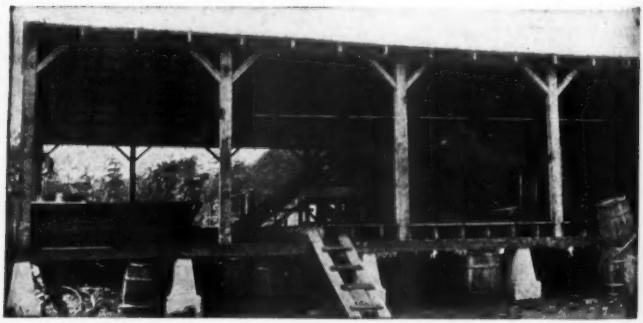
Potato Sizers Prove Economical in Service

Sizing of potatoes by hand has not proven a success, except where rigid inspection is practiced. The mechanical sizer, however, has proven satisfactory on many potato farms and, when properly operated, more economical than hand sizing. Where an individual farmer does not grow enough potatoes to justify the investment necessary for a good mechanical sizer, it is often possible to purchase one in cooperation with his neighbor.

Mechanical sizers or graders, as they are usually called, will grade potatoes according to size after the operator or sorter has removed all defective stock as the potatoes pass over an apron or table attached to the sizing machine. Too many growers and shippers leave the grading for quality as well as the sorting for size to the machine. If properly managed, it will size the stock satisfactorily, but every grower should do his part by carefully removing by hand all defective potatoes.

A Useful Bulletin on the Size of Graders

Farmers' Bulletin 753 says: "Any sizing machine should be so built as to allow a large apron and a long belt or other sizing device. The large apron or table on the machine is necessary in order that the operator or sorter may have ample opportunity to remove all defective stock before the potatoes go on the belt or other sizing device. A sufficiently long machine or belt is essential in order that the tubers will have sufficient distance to travel so that they will be properly sized before leaving the machine."



An electrically operated potato sizer or grader in grading house belonging to The Eastern Shore of Produce Exchange

One of the leading manufacturers of potato grading equipment has several models on the market which can be operated by hand, gas engine or electric power. One of these machines having a motor drive and a capacity of 400 bushels per hour handles both potatoes and onions, and is an ideal grader for localities where the market is available for three merchantable grades of potatoes or onions, as it gives three grades in one operation, besides eliminating culls and dirt. This machine is used exclusively in many sections of the South where potatoes are often graded when green and immature and therefore subject to considerable injury unless handled with extreme care. This particular model is furnished with one picking table as standard equipment, but can be supplied with an additional side picking table, when it is desired to hand-sort more than the first grade. The electric motor drive has a jaw clutch reduction gear which permits starting and stopping equipment without shutting off the power. This model can also be used in the North, when an extra large grader is desired, by putting a larger belt on the head roll and obtaining the No. 1's and No. 2's from the second and third belts.

Graded Potatoes Profitable

Since ungraded potatoes can not compete with graded stock on the market except at a sacrifice in price and since the marketing of poorly graded potatoes causes heavy losses to the grower, it is essential that every grower adopt better grading practices and establish standard grades if the potato industry is to be placed on a profitable basis. Information as to the official United States standard grades of potatoes can be secured from the Bureau of Agricultural Economics of the U. S. Department of Agriculture. Names of manufacturers of potato grading machines can be secured by writing this publication.

The smartest person is not the one who is quickest to see through things, but the one who is quickest to see things through.

Ground Oats for Fattening Shotes

Grinding oats for 110-pound shoats was found to add 26.6 cents a bushel to their value when fed as a supplement to corn and when fed alone made them worth 10 cents a bushel more than whole oats, according to a recent test at the Ohio Experiment Station. Grinding also resulted in 20.9 per cent quicker gains. Experiments at this station also indicated that the best method to feed oats to poultry is finely ground as a part of the mash mixture. It was also found that rations containing 70 per cent yellow corn were improved for layers when 20 per cent of the corn was replaced by good quality heavy oats.

Silage Increases Returns

An acre of corn returned $71.65 when put into a silo and fed to steers as silage, together with cottonseed meal and mixed hay, at the Ohio Experiment Station in a recent test. An acre of similar corn returned $50.80 when cut and husked and fed to steers as shelled corn and stover, together with cottonseed meal and mixed hay. This study confirms the results secured by other experiment stations as well as the observation of practical feeders.

Cheap Power

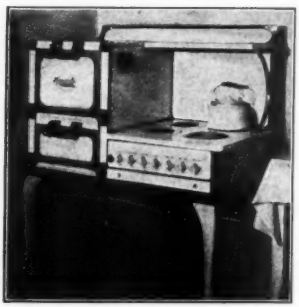
(*Continued from page* 19)

operating costs for different farm jobs.

Yes, electricity is a cheap source of power, the cheapest known. Power and labor constitute about sixty per cent of the cost of producing farm products, and these two factors of cost are directly within the control of the farmer. Farming combines the home and factory. What a wonderful part electricity, working in both, is destined to play in this great industry of agriculture!

ELECTRICAL HOUSEKEEPING

Conducted by
GAIL MEREDITH



There are two ovens on this range. The circular attachment on the upper oven is the regulator that maintains a constant heat when the current is on

Using What for Fuel?

WHAT with folks falling in love every day or so, and the society columns of the newspapers overrun with weddings, it does not look as though this business of cooking were very apt to fade into a lost art.

For marriages lead to homes, and homes, any way you look at it, are bound to base a pretty good share of their comfort solidly on the kitchen stove. Most any bride knows that.

Just the other day I had a talk with two giddy young lovers about stoves. They were very recently engaged, so recently that they were apt to go off in a trance and forget the rest of the world most any minute.

While I was chatting with them about this and that, Dan looked down at Jerry Ann suddenly and exclaimed, "And darling, you'll be cooking all my dinners!"

"Oh, yeah!" she retorted flippantly, gaving at him, nevertheless, with star-eyed adoration, "using what for fuel?"

Then they rocked back and forth with that gay laughter youth draws from some bright sea of mirth, whose shores elude us as the years go on. I knew it was useless to ask them what was funny; if I didn't see, they couldn't tell me. So I smiled vaguely at them and turned away.

"Oh, wait a minute, Aunt Gail," said Jerry reproachfully. "You can help us here. We've really got to go into this matter. What am I going to cook with? There's going to be electricity on the farm and I've been meaning to ask you what it has to say for itself as a fuel."

"Yeah, and a wood lot and a gasoline tank," put in Dan. "Plenty of choice, but we've got to have something cheap, you know, dear."

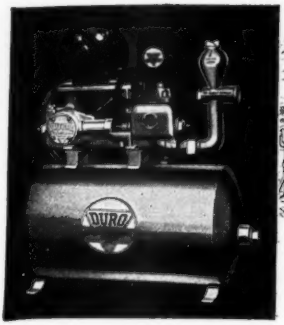
"If cost is your first concern, you will find that electricity costs more than kerosene or gasoline, but less than coal or even wood from your own wood lot," I said.

Dan's eyebrows rose.

But I was not guessing. A few years ago in a study of that very point we asked a group of farmers to measure off an even cord of wood and note the time it took to burn it in the kitchen stove. We asked them to decide on the market value of that wood in their own locality, what they had to pay for it, or what they could sell it for. Then by dividing the cost of cooking by the number in the family, we found that wood as a fuel for cooking cost $1.32 a person a month.

The cost of electric cooking has been the subject of considerable study in the last five years. While no one could foretell for Dan and Jerry just what their cooking bills will be, the amount other folks use is an indication of what they may expect their meter to read.

A recent bulletin called "The



what has Winter to do with Water?

Cold wintry blasts . . . zero weather will be with us before we realize it. Before it comes get what you have been promising yourself and your family . . . running water under strong pressure.

Will you pump water outside this winter or will you, with very little effort, simply turn the faucet for barrels of it?

Will you have the modern sanitary bathroom and toilet or will you be without it?

Will you expose yourself and your loved ones to serious illness from the ugly weather or will you protect the health of your precious ones?

Will you have water under strong pressure as a means of fire protection, or will you run the risk of the loss of a lifetime of labor . . . plus possible bodily harm?

Duro wants you to get more out of life . . . to put happiness, comfort and convenience in your home. You owe this happiness, comfort and convenience to your family and you owe it to yourself.

Get your Duro Automatic Electric Water Pressure System . . . your private water works . . . at the cost of a good phonograph or radio and on easy convenient terms if you like.

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Dayton, Ohio

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DURO *Automatic* WATER SYSTEMS

THE DURO COMPANY, 537 E. Monument Ave., Dayton, Ohio

Please send me full information on Duro Water Systems, and free advisory service on my requirements.

Name..... Address.....

Electric Range for the Home," from Iowa State College at Ames, reports this use of current for cooking in a dozen farm homes, a school, and a church.

Kilowatt Hour Consumption of Ranges in Rural Homes—Iowa Project on Rural Electrification at Garner, Iowa.

Size of Family	Type of Range	Average Kw. Hr. a Month
6	2-plate range attachment	27.5
5	2-plate and over range attachment	41.6
School	Wall outlet range single plate and oven	25.0
Church	Hot plate and oven	32.0
7	Range	119.6
6–7	Range	193.0
6	Range	130.0
5	Range	70.5
5	Range	137.4
4	Range	74.7
2–6	Range	162.0
3	Wall-mounted range	49.4
5–6	Combination coal and electric range	253.2
5	Combination coal and electric range	185.3

Extension Bulletin No. 66, "Electrical Cooking in the Farm Home," published by Kansas State Agricultural College, Manhattan, Kansas, has another table that gives the energy used for cooking on half a dozen more farms.

Energy Used by Electric Ranges in One Year

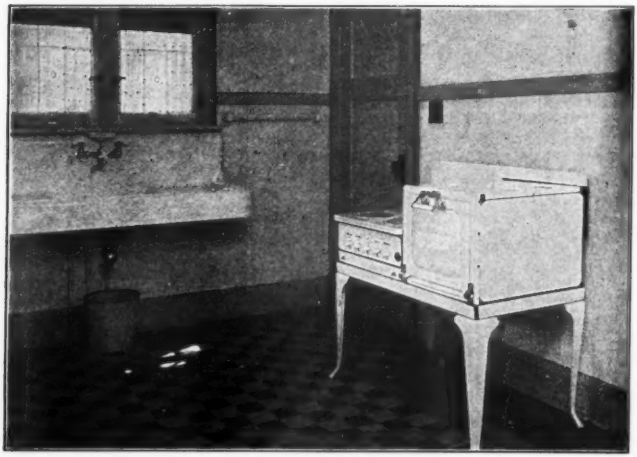
Number in Family	Average Kw Hr. a Month
4	67.5
4	97.7
4	117.7
4	135.6
4	78.4
5	166.3
Average	110.5

This same bulletin has the report of a study of comparative costs of coal and electricity made on three Kansas farms. The conclusions showed that efficient use of the electric range kept the cost of cooking with electricity at 4 cents a kilowatt hour below the cost of cooking with coal at $10.00 a ton.

"Electricity is a clean fuel," I went on.

"Yes," Jerry interrupted just a little impatiently. "Of course, I can see that I won't have to have a wood box with an electric range. There won't be any litter of chips about."

"Nor any ashes to carry out, either. It doesn't burn up anything, so there isn't any soot or smoke to discolor the walls or the



Electricity is a clean fuel

The POWER Diamond ON WHEELS

MASTER PORTABLE FARM MOTOR

Hard Jobs On The Farm Made Easy

The Master Portable Farm Motor is a rugged, dependable power unit that is easily moved to where you have a job for it to do. It'll save untold time and labor when used in sawing wood, filling silos, hoisting hay, grinding feed, mixing feed and many other operations. It's built to stand difficult service.

For more information on this, or on Master Guaranteed Motors for general application (1/30 to 10 H.P.) write us. No obligation.

THE MASTER ELECTRIC CO.
Dayton, Ohio

STOCKS CARRIED IN PRINCIPAL CITIES
MORE THAN 100 SERVICE STATIONS
MASTER GUARANTEED MOTORS
1/20 TO 10 H.P. Not More Than 40°

curtains, or to blacken the bottoms of your pans."

Jerry Ann nodded.

"Next it is convenient," I continued. "It is so convenient that those of us who have grown up with temperamental cook stoves that needed a lot of coaxing to make them draw, still look upon it as a sort of minor miracle to have any heat we want in the cooking surface or in the oven at the turn of a switch. No chips to gather, no kindling to split, no wood to carry, just a button to turn.

"If you want to boil potatoes, you build a fire only under the kettle of potatoes; nowhere else in the stove. You are heating only the bottom of that pan so no fuel is wasted in heating the room. That is one reason why cooking with electricity is cheap. You can't buy a coal or wood fire in odd lots; you have to heat up the stove for any kind of a job."

Jerry Ann smiled teasingly.

"Seems to me I've heard that 'cooks the food and not the cook' argument before."

"It's still true," I retorted. "There is a lot of comfort in working with a cool fuel, if you see what I mean. You do not have a circulation of air to keep the fire going, so when you are working over the stove, you aren't working in a swirling current of hot air all the time. The heat is pretty well confined to the place where the actual business of cooking is going on."

"It sounds plausible," said Jerry thoughtfully. "I'm not sure I'd be so hot at keeping fires going, Dan."

"That's just what you would be," I insisted. "But with electricity, switches control your fire perfectly. You have it when you want it, as much as you want of it—and you do not have a big fire left to burn down to nothing when your cooking is done. The fact that you buy only what you need is another reason why it is a cheap fuel."

"Aren't there a lot of automatic dojiggers on the ranges, too?" asked Dan.

"There is an oven regulator," I replied. "That gives you exact control for baking. With a good cook book, a reliable regulator and a clock, Jerry Ann ought to carry on the family reputation for marvelous baking with no trouble at all. If she sets the thermostat at the same temperature, follows the same recipe, and leaves the bread in the same time this week that she did last, her results will always be the same."

"Let's hope the first ones are good, then," said Dan, ducking to the left as Jerry made a pass at him.

"If you insist on meals whether Jerry is in or not, you can buy a clock that will turn the current on in the oven for you, and turn it off again when the cooking is done. That's a useful little habit for a stove to have. When a woman is out driving the tractor or the mower, for instance."

"Good enough," Jerry agreed. "Anything else in your bag of tricks?"

"Yes, there is speed," I replied. "If you cook your vegetables in small amounts of water, you can cook them as quickly as you cook them over an open flame. You cannot heat large quantities of water as fast. But you can get the temperature of the oven up to baking heat in seven minutes. The oven will be ready before the cake is, unless you're a lot faster than I think you are."

Jerry Ann nodded.

"It sounds easy," she said. "I'll be thinking it over. Come on, Dan, let's go to town." She paused on the top step and looked back at me. "There isn't much danger of fire with no flames leaping about, is there?" And there'll be no matches for the children to get hold of."

She blew me a kiss and ran down to the car. Dan followed more slowly, calling back:

"Thanks, Aunt Gail. We'll be seeing you."

We're prone to think, as most folks do,
Electric lights are rather new—
Yet the firefly has had 'em
Ever since the days of Adam.

ALICE C. HOFFMAN.

It saves

LABOR! TIME! MILK! MONEY!

WHEN you are buying a dairy cow, you judge her on her *points.* Judge the General Electric Milk Cooler the *same way!* Size it up from every angle, and consider how much it will give you in return for your investment.

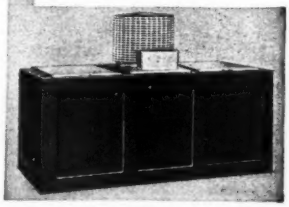
Judge it by its *line of breeding.* It is *General Electric!*

Judge it by its *efficiency.* It quickly cools your milk well below the 50 degree bacterial danger point—eliminating waste and assuring top prices for your milk.

Judge it by its *dependability.* Its entire mechanism is *sealed in steel,* so that dirt, air and moisture cannot possibly get at it.

Judge it by its *economy.* It operates on a very small amount of electric current—saving you labor, time and operating expense. Judge it on *all* these points, and join the hundreds of modern dairymen for whom the General Electric Milk Cooler is making extra money!

See the General Electric Refrigerator dealer near you, or write us for a free booklet and easy terms. Address Section CZ-9, Electric Refrigeration Dept., General Electric Company, Hanna Bldg., 1400 Euclid Avenue, Cleveland, Ohio.



GENERAL ELECTRIC Milk Cooler

ELECTRIC REFRIGERATORS • COMMERCIAL REFRIGERATORS ELECTRIC WATER COOLERS

Holland Rusk Torte

SEPTEMBER begins the open season for clubs. That means lots of bustling around getting up papers and music and starting rehearsals for meetings that are to come. It means, too, that there is always a hostess who has to give a thought or two to the food she will serve when the program is over.

If that hostess is going to be you one of these days, you may be interested in this rusk torte. A friend of mine gave it to us one afternoon last winter at a meeting of our book club. She cut it in little squares and served it on a paper doiley on a green glass plate, so it made a very effective and distinguished entrance.

While we put sugar and cream in our coffee, we cocked curious eyes at the concoction on our plates. It was new to all of us. But at the very first inquiring bite we all but smacked our lips in pleasure, and besieged her with pleas for the recipe so we could go home and make it ourselves.

This is the Torte as it comes out of the oven

It is not a bit hard to do. It takes:

5 eggs
2 tbsp. flour
2½ cups milk
¼ tsp. cream of tartar
1 box Holland rusks
2¼ C. sugar
2 tsp. flavoring
5 eggs.

You begin by making a custard of the five egg yolks, two tablespoons of flour, ½ cup of sugar, one teaspoon of flavoring and two and a half cups of milk. Cook it until it thickens; then set it aside to cool while you are getting the rest of the torte ready.

Crush the rusks with a rolling pin. Take out one-half cup of the crumbs to sprinkle over the top. Add one cup of sugar, and a half a cup of melted butter to the rest of the crumbs. Line the bottom of a baking pan with this mixture, bringing it up the sides of the pan like a pie crust. Pour the cooled custard on to this. Beat egg whites until frothy, add one quarter of a teaspoon cream tartar and beat until stiff. Add three-fourths of a cup of granulated sugar, beating continually. Add one teaspoon flavoring; pour this over the custard and sprinkle the top with the half cup of crushed rusk. Bake at 325 degrees for twenty minutes. Serve cold.

The rusks and the sugar and butter make a crisp, glazed crust that crumbles deliciously when you eat it.

I hope you will like it, too.

A Song the Grass Sings

by Charles G. Blanden.

The violet is much too shy,
The rose too little so;
I think I'll ask the buttercup
If I may be her beau.

When winds go by, I'll nod to her
And she will nod to me,
And I will kiss her on the cheek
As gently as may be.

And when the mower cuts us down,
Together we will pass,
I smiling at the buttercup,
She smiling at the grass.

High Quality Feed Grinding
at less than 2 cents per 100 pounds

PRATER MILL
Grinds without attention while you do your other work

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Worth many times its price in actual money saved in grinding costs. Ask your power company or dealer for complete information. Or send to us for FREE catalog.

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Don't Take Chances With Your Water Supply

The Cullman Electric Pump Drive can be operated by hand or windmill in an emergency. You are always sure of water.

The motor drives through a compact and completely enclosed chain and sprocket reducer. It is quiet and runs in a bath of oil.

Add to the Drive, the Cullman Automatic Control and the Well Casing Head and you can have a frost proof pressure system for house and barn.

Send for a descriptive folder.

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Cullman

Our Neighbors

Don't you often see a stranger that you wish you knew? People who look interesting, and amusing, and really alive. And don't you have a pleasant little thrill all up and down your backbone when you do meet someone who gives you a little glimpse into another world? Anybody else's life is really another world, isn't it?

I believe that everyone knows some farm woman that the rest of us would be interested in. If you do, won't you write me about her for our *Neighbors* Column. If she does something unusual or interesting, tell us about that. Tell us everything you can think of about her. Yes, gossip as much as you like. If you can get a picture of her, or of her activities, send that too.

GAIL MEREDITH.

Mrs. Krueger Gets a Water System

IF you are fond of folks, you will enjoy meeting Mrs. Krueger, I know. You would have liked it better, of course, to hear her as I did at a meeting in Berlin, Wisconsin, last March. But since most of you couldn't be there, the very next best thing is to meet her here.

She talked on water systems at a conference on the use of electric service on the farm. Even before I knew she was going to speak, I had been watching her, because she looked so splendidly alive. She is a fine looking, upstanding woman, with smiling brown eyes. When she was introduced, she came forward, smiling pleasantly at us, and began with:

"Good afternoon, ladies."

I have heard a good many people make speeches of one kind or another, but I think I have never heard a more effective, friendly beginning.

I complimented her on the ease with which she spoke, when I talked to her afterwards.

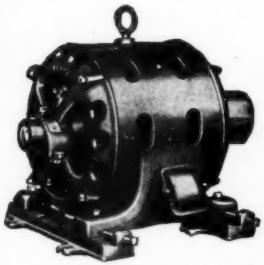
"You have, evidently, done a good deal of public speaking," I said.

"I never made a speech before in my life," she answered in surprise, "and I was scared to death."

I laughed right out loud at that, for we who listened to her certainly never suspected that she was afraid of us.

"Our new water system was my Christmas present," she began. "It is one of the nicest ones I've ever had. I can't say much about water systems in themselves. I don't know anything about the mechanism of mine, and I don't care anything about it. The think I do know, and I do care about, is that it works. Water flows every time I turn a faucet. It has never been out of order for a minute. I suppose that is because it is a good system, and it was installed right

This is a Christmas gift that gives increasing pleasure



5 Horse Power Century Type RS Repulsion Start Induction Single Phase Motor.

Let This Motor Work For You

Many tough farm jobs now done by hand can be done easily by Century Single Phase Motors. Because "They Keep a Running" with little or no attention, these motors will work for you year after year and pay their cost many times over.

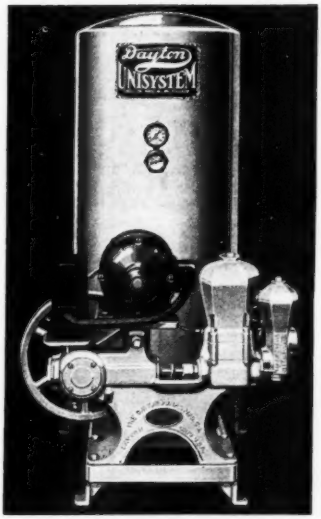
Built in all standard sizes from 1/8 to 40 horse power.

CENTURY ELECTRIC CO.
1806 Pine St. St. Louis, Mo.

40 U. S. and Canadian Stock Points and More Than 75 Outside Thereof

Century MOTORS

. . . A WORTHY HIRED HAND FOR THE WINTER . . .



No one cares to brave snow, sleet and bitter winter winds to carry water from an outside pump. And there's no need for it when you can install a DAYTON *Unisystem*—and for a few cents a day have a worthy, dependable hired hand to furnish you plenty of water, whenever and wherever you want it, just like city water service.

DAYTON Water Systems are made in a full range of sizes—capacities from 225 to 1473 gallons per hour, and priced as low as $65.00 f.o.b. Dayton. Every DAYTON is automatic in operation, self-oiling and built for years of trouble-free service. Write today for complete description and prices of all DAYTON models. The Dayton Pump & Mfg. Company, Dayton, Ohio, U. S. A.

Dayton WATER Systems

The Dayton Pump & Mfg. Co., Dayton, Ohio

Please send me complete information and prices on DAYTON Water Systems:

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.....

MAKE THE *WATER* DO THE RUNNING

in the first place."

"I can't tell you the thrill I get from knowing that I actually have all the hot water I want, even when there's a greasy sausage grinder to wash. I'm more tickled about it than a girl with a whole family of new dolls."

I do not know what the latest census will show, but previous surveys report that only 14 per cent of Wisconsin farms have water systems.

"Why hadn't I always had a water system?" asked Mrs. Krueger. "You know the answer. We always thought we didn't have the money. And then one day I began to do some serious thinking about it. I notice that on our farm, and on everybody else's farm, if an old rake wears out, a new one is there instantly; just by magic. When the men folks have a new barn, the best calf pens, the best horse stalls they can buy, go into that barn. So I began coaxing the rest of the family to agree to get along with just a little less expensive equipment outside so there will be something left for equipment inside. They fell in with my plan readily enough, for, of course, they want to be fair."

But still, the savings effected that way somehow never translated themselves into a water system. So Mrs. Krueger sat her down to think some more. As a result of that little conference with herself, she began talking pump morning, noon and night. She is not at all sure she did not talk about it in her sleep.

But talk worked no miracles.

So she must needs devise another plan. This time she suddenly stopped being pretty largely responsible for the water the family used. She makes cottage cheese every day to sell—and that, by the way, is another story I'll be telling you one of these days—so pails of water vanish quickly. She began to be just a mite reckless with water; she used it with a free hand so the household demands grew to alarming proportions.

Every time one of the men folks came to the house, she said, "Will you get a pail of water, please?"

Just let them get nicely settled to read or smoke, and she found she had to have a pail of water. They began to be aware of washday as never before. Now, as Mrs. Krueger pointed out, men get most awfully sick of doing jobs by hand. They found themselves lugging water till her son wailed:

"Mother, it seems like every time I turn around some one says, 'get a pail of water'!"

Before very long there was an agitation on foot for a water system that would carry the water right to the kitchen where the water was needed.

Then they decided, those men folks of hers, to give her a water system for a Christmas present.

And they haven't had to carry a pail of water since.

Cane Molasses

In feeding trials with dairy cows on advanced registry test at the Beltsville (Md.) Experiment Farm of the Bureau of Dairy Industry, cane molasses fed at the rate 1.1 pound per cow per day to replace the same quantity of hominy feed in the ration proved slightly less valuable, pound for pound, for milk production than the latter feed. It was found also to be uneconomical for supplementing rations already satisfactory from the standpoint of feeds and feed nutrients. However, cane molasses has some value as an appetizer for very high producing cows on test and for mixing with unpalatable concentrates and roughages to obtain a greater consumption of these feeds.

How to Water Trees

Transplanted trees usually need artificial watering for at least two or three years during dry seasons. Specialists in the United States Department of Agriculture recommend that such trees be given a good watering once or twice a week rather than a little water every day. A mulch of straw or leaves around the tree will help to conserve the water in the soil.

Enough Pressure to send WATER CLEAR OVER THE BARN

Without high pressure water country homes and farm buildings are at the mercy of fire. Yet, *for a few cents a day*, a Kewanee System will provide water under high pressure to give complete fire protection. Also all the water needed in bathrooms, kitchens and laundries, for watering stock and sprinkling.

The *originators* of pneumatic water supply systems, Kewanee has been building them for 30 years. You'll find them on many of the finest farms all over the country.

Included among the 200 Models and Sizes (200 to 10,000 gallons per hour) there is one just right for every need. Our new model 70 (225 gallons capacity) sells for $75.

Let our engineering department help you as we have helped hundreds of other owners.

No obligation. The Kewanee Line includes complete Water, Sewage Disposal and Electric Light Systems. Ask for bulletins describing them.

Kewanee N-35 for from 600 to 2000 gallons per hour.

KEWANEE

HIGH PRESSURE
WATER SYSTEMS

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The Green Knight

PAUL WATER SYSTEM *New Low Price!*

$75

THE Paul Green Knight Water System provides the wonderful convenience of an *unfailing water supply, instantly available,* for the kitchen, laundry or bath! Mighty satisfying too—to have plentiful water, with adequate hose pressure, for sprinkling the lawn, fire fighting or washing the car.

THOUGH miles removed from city water facilities, you may, by the installation of a Paul Water Supply System, *enjoy the same modern bath, laundry and kitchen convenience as your city neighbor.* Best of all, you can enjoy this Water System while you pay for it. Only a small amount down and 12 small monthly payments buys it. *Write today for more details.*

Sold on Easy Payments

FORT WAYNE ENGINEERING & MFG. COMPANY

Fort Wayne, Ind.

Pumps and Water Systems — *Water Softeners Heaters*

Ft. Wayne Engineering & Mfg. Co.,
***1722 N. Harrison,* Ft. Wayne, Ind.**

Send complete information and prices on Paul Green Knight Water System . . . and Easy Payment Plan.

Name.....

Address.....

Warming the Poultry Water Fountain

By RAY N. KINGSLEY

EGGS contain so large a percentage of water that it is very important to keep a proper supply before laying hens at all times. During Northern winters the poultrymen need a fountain warmer that will require the least labor and expense yet will prevent freezing without warming the water so much the hens do not relish it.

Such a heater was built for J. E. Lewis of Vernon, N. Y. On a piece of soft pine wood ⅜ inch thick and 4 inches in diameter was placed a socket and a 50-watt bulb. Over this was placed a 5-inch length of 4-inch leader pipe with a ½-inch slot at the bottom of the pipe, which allowed lamp cord to enter and provided ventilation for heat circulation. This piece of apparatus was installed in the heater compartment under an 8-gallon fountain of water.

During a four weeks' test in the middle of the winter Mr. Lewis found: (1) That the birds drank one-quarter more water from this fountain than did the birds in the other pens from their fountains. (2) That at 20 degrees below zero only a slight coating of ice formed which the birds pecked through by 6:30 in the morning. (3) That operating the heater continually, even on warm days, used only about one kilowatt hour a day. (4) That this method would save an hour a day in the care of eight water fountains.

The Lewis poultry house was fairly well insulated but had an open front. His heater could be improved by lining the heating compartment with insulating material. As it was, any handy man should be able to make it at a total cost of one dollar.

Whatever else may happen
Now that the country's dry,
The sailor, he will have his port,
The farmer have his rye.
The cotton still has got its gin,
The seacoast has its bar,
And each of us will have a bier
No matter who we are.

Discover Better Sweet-Clover Growing Methods

SWEETCLOVER may be grown successfully on soil only slightsour with a relatively small quantity of lime by mixing it with the seed. Usually about 400 or 500 pounds of hydrated lime with the seed is enough for one acre. The mixture is sown through a fertilizer attachment of a wheat drill. Applied in this way the lime falls close to the seed, Mr. Kephart says, and it is immediately available to the seedlings. Apparently the seedling stage is the critical time with respect to lime requirement, and if the seedlings become established the plants thrive.

Both laboratory culture and soil from sweetclover fields are used successfully in what is known as double inoculation to doubly assure a good stand, Mr. Kephart says. The seed is treated first with the laboratory culture and then is mixed with three or four times its bulk of the sifted soil.

To Promote Growth

To overcome slowness of germination of sweetclover seed, seed may be scarified for late spring or summer planting, but growers have found that the seed in the hull is better for late fall or winter and will ordinarily germinate by warm weather, Mr. Kephart says. In most of the Central and Eastern States unhulled seed scattered on a frozen wheat field in January or February has proved to be one of the most reliable methods of obtaining a stand.

The binder is being used to bundle sweetclover when cut for hay, thus improving the curing, at reasonable cost, and clover is used in pasture mixtures with grasses in some sections, increasing the pasturing season and improving the grazing. Farmers have learned to reduce the danger of livestock bloating while feeding on green sweetclover by feeding some hay before turning stock on sweetclover pasture, so the animals will not gorge themselves on this plant.

Milk Cooled Electrically

ELECTRICITY and Esco reduce bacteria counts—eliminate the expense and hard work of using ice for cooling. Bring all-the-year premiums within easy reach.

ESCO Electric Milk Coolers adapt electric power to one of its most important uses on the farm. By this method milk is quickly cooled in the original cans to below 50% and stored in the clean, electrically cooled Esco cabinet. Automatically operated, maintaining always a uniform temperature.

Durable, rust-resisting, battleship construction, portable. Highest grade insulation.

Ask your Power Company, Electric Refrigeration Dealer, or write to us.

ESCO

Reg. U.S. Pat. Off.

ESCO CABINET CO.
West Chester, Pa.

ELECTRIC MILK COOLERS

Valuable Information

All the manufacturers you will find represented on our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention ELECTRICITY ON THE FARM.

The LAUSON
Electric Jacks

This No. 2A furnished with universal mounting bracket to accommodate motor, one you have or we will furnish, with V pulleys and V belt for drive.

The No. 2B has flat face pulley for drive from remote motor.

Also the Standard No. 3 with motor direct-geared in enclosed housing.

Full Line Complete Water Systems

Write for literature on either or all

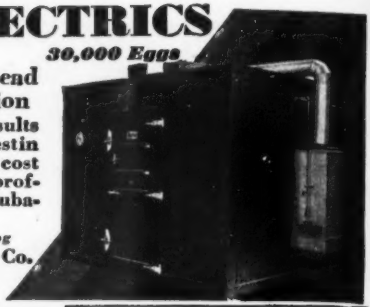
No. 2A with "V" Belt Drive

The Lauson Corporation
700 Michigan, New Holstein, Wis.

SMITH ELECTRICS

52,000 Eggs ***30,000 Eggs***

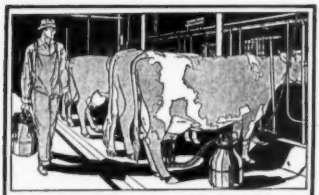
The Farthest Step Ahead in Electrical Incubation



FIRST in performance, results and quality chicks. Lowest in current consumption and cost of operation—highest in profits. The outstanding incubator of today.

Write for new Electric Catalog

The Smith Incubator Co.
3102 W. 121st St.
Cleveland, Ohio



Perfect milking, a cleaner, better product and lowered production costs with the electrically operated De Laval Magnetic Milker.

The De Laval Separator Co.
New York Chicago San Francisco

BEVAN

Roller Bearing Electric Pumpers —Units and Pump Jacks for all depth wells. Literature on request

ACME MACHINE CO.
2901 Fremont Ave. So.
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"HOLD—HEET" *Electric*

Heating Units

for every farm purpose

25 types, all practical sizes. For brooders, incubators, small buildings, water and feed tanks, pumps, hotbeds and drying. Space, Immersion and Conduction Heaters. Copper tube heaters—watts by the foot.

Write today for Informative Bulletins, sent FREE.

Russell Electric Company
"80-J W. Huron St., Chicago, U.S.A.
"Electric Elements That Fit the Job"

Andis Animal Clipper

The One-Man, One Hand Clipper

No stands, trolleys or cables. Clips udders, flanks, 8 to 12 cows an hour. Satisfaction guaranteed. See dealer or write for full description and special offer.

ANDIS CLIPPER COMPANY
1042 LAYARD AVE., RACINE, WIS.

You can rely on our advertisers. If they can't supply your wants see Inside Back Cover.

Awards and Rules—Cover Title Contest

First Prize for July—$25.00

"Moonlite and love lite
Make happy maids and lovers
But the new and modern electric lite
Makes fun for little brothers."
A. F. Gray, Palisade, Minn.

The following titles have been selected as winners of the $5 cash prizes:

"High lights on Cupid."—Mrs. Joseph A. Herr, R. F. D. 3, Nottingham, Penna.

"No secrets now can sister hide,
'Cause our back porch is 'lectrified."
—Miss Florence Tschantz, R. F. D. No. 3, Dalton, Ohio.

"The surprising qualities of electricity."—Marion Curtis, R. F. D. 3, Copenhagen, N. Y.

"Light punishment for Petty Larceny."—Louise Harris, R. F. D. 7, Kokomo, Ind.

"Electricity the source of endless surprises."—Rose Stransburg, R. F. D. 2, Earl Park, Ind.

Rules for September Contest

For the best title to the front cover illustration, a cash prize of $25.00 will be awarded.

In addition we will pay $5.00 for each of five titles given honorable mention.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

The winners will be announced in the November issue.

Only the farmers or members of the farm family, to whom this magazine was sent, are eligible.

Only one title may be submitted.

Use the form below or write your answers on a plain sheet of paper in similar form.

Be sure to answer question (a), (b), (c).

Write plainly and send your suggestion to the Title Editor, ELECTRICITY ON THE FARM, 24 W. 40th St., New York, before October 1.

My title for September Front Cover picture is.....

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.....

.....

(a) Is water piped to your bathroom?.....

(b) Have you a bath tub?.....

(c) Have you a hot water heater?.....

If yes check type: Electric ☐ Coal ☐ Oil ☐

Name..... R. F. D.....

Post Office..... State.....

.....

Questions and Answers

Conducted by H. J. GALLAGHER
Agricultural Engineering Dept.
Michigan State College

Note—Readers are invited to send in questions which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Question: *My dairy farm is wired for electric power with three wire 100 ampere service and at present we are using only lights, a washing machine and iron. We want an electric range, a water system, a milking machine and a feed grinder. Unfortunately we can only invest between $200 and $300 for equipment this fall and cannot decide which to buy. One day we decide on the range and the next day on something else. Which piece of equipment will we realize the greatest good from?*

H. J. GALLAGHER

Answer: I cannot say which piece of equipment you would derive the greatest benefit from as there are too many varying factors on every farm that would determine the results attained with any equipment. There are, however, a few principles involved in the purchase of electrical equipment that I believe are universal. In the first place the farm is primarily the source of income that supplies the living requirements of the home and the first investments should be from a business standpoint to increase the income through money earned or money saved. I would analyze the costs involved in pumping water, milking, grinding grain, and for cooking and refrigeration, on the basis of your present operations and then compare the time, labor and money saved by operating each electrically; the piece of equipment that showed the greatest earning ability would be the one I would purchase first and the earnings effected by the first piece of equipment would be applied on the second piece of equipment of greatest earning capacity, and so on down the list of equipment you desire. This is the best method of making electricity pay its own way. I believe I would give more emphasis to tangible cash saved than time and labor saved because it is easier to apply cash on additional equipment than it is time or labor; unless the time and labor saved are converted into cash by productive work.

I know of instances where the difference between grinding grain electrically with 5 h.p. equipment and the former custom mill costs paid the monthly installment price on an electric range or refrigerator. This means that by purchasing the mill first both the mill and range were practically purchased on an investment of only one piece of equipment. If all the equipment needed were purchased at once it would work out the same way in the end, but as in your case few farmers can make so heavy an initial investment.

Generally speaking a good water system is one of the most important uses for electricity on any farm but it might be that the milking machine or feed grinder would more readily pay for the water system than the water system would pay for the milking machine or grinder. The same would hold true for the range and refrigerator.

MAKE REAL PROFITS!

PETERSIME Electric Incubators are making larger profits for Hatcherymen and Poultrymen everywhere. Unmatched results—Lowest operation costs—built in five sizes from 1,400 to 15,984 capacity. Write for NEW Catalog—FREE—No obligation.

Ira M. Petersime & Son
EF9, Gettysburg, Ohio

TITAN
ELECTRIC PUMP JACKS
No Belts—Self Oiling—No Bother

Made with ¼, ⅓ or ½ H.P. Motor, for direct or alternating current of all voltages. Strong, compact and durable. Spur gears run in constant oil bath in leakproof case. Will give years of labor-saving service.

Write for prices and further information. Good territories open for GOOD dealers.

THE TITAN ELECTRIC CO.
ADRIAN, MICH.

GILLETTE
CLIPPING & GROOMING MACHINES

Always ready for work—can be operated from any lighting outlet—a product of 45 years experience—cost a little more but worth a lot more—thousands of satisfied users.

Send for illustrated price list
Order Through Your Dealer or Direct

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New York City

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Overlook
Page 51

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Guaranteed
Electrical Protection Equipment
Burglar Alarms
No-Voltage Alarms
HYLO Thermostats
Power Units
Descriptive Literature
SAFEGUARD ALARM CO, Inc.
Council Bluffs, Iowa

New, Low Cost Hen House Makes Hens Lay in Winter

With same hens, same feed you can get enough high priced winter eggs to pay big return on small investment. You CAN do it NOW on easy monthly terms.

Only 10¢ per Bird Cash Outlay

Tight—Warm—Ventilated

New design gives fully insulated and ventilated (Genuine King System) house at cost of ordinary shed. Babson Farm Service Man will call on request. Write!

Babson Manufacturing Corp.
Dept. 55-16
2843 W. 19th St., Chicago

Motorize your *Clipping & Shearing* Machines for $5.50

Write for complete information. "Stewart" means BEST. Complete electric models low as $45; complete hand machines low as $15. Complete illustrated catalog free.

Chicago Flexible Shaft Company
5524 W. Roosevelt Road
Chicago, Ill.

STEWART
—World's Greatest Line of Clipping Machines

A Commendable Record

Oren Sanger, 15-year-old vocational student of Orwell, Ohio, has the honor of having produced the champion ton litter of pigs in the state of Ohio during 1929. Aside from this, he also has the distinction of being the first one to produce a ton litter in Ashtabula county.

When only 180 days old the litter weighed 3,125 pounds, according to the judges' report. The litter was sold in the Cleveland market and brought the top price.

This boy raised the litter as his livestock project in connection with his vocational agricultural course, under the supervision of A. N. Griffin, Instructor.

Producing a ton of pork in one litter in Ashtabula county has created a great deal of interest as the chief source of income in this section is derived from daily products. Hogs are not considered as a major source of income.

The work of Oren Sanger has demonstrated that the raising of hogs properly will add to the source of a cash product in northeast Ohio. As a result of the success in connection with this litter, two more entrants have been added to the Ohio ton litter contest for the present year.

H. H. Varney, County Agent,
Jefferson, Ohio.

A Demonstration Farm

It was with considerable hesitancy that Mr. George Slade, of Hubbardston, Mass., petitioned the local electric light company to extend electric service to his farm, a mile from the end of the present line. He assured them that he would use many appliances in connection with his dairy business, house and barns.

After a great deal of profitable discussion between the electric company and Mr. Slade, the following idea was conceived: To use Mr. Slade's farm as a demonstration farm for electrical apparatus. Very few farmers in this particular vicinity had electricity at the time and such a farm as this would serve to bring before the farmers the benefits of electric service. In fact, with the aid of the Farm Extension Service, people from the entire county could be induced to become interested spectators.

With this end in view the farm was electrified. It is needless to say that the installation of current on the Slade farm has been the means of making labor more enjoyable, and dairy farming more sanitary and profitable.

The house is now equipped with appliances for the convenience of Mrs. Slade, thus making her work a great deal lighter. The electric refrigerator seems to be the favorite appliance in this particular home because of the amount of food it saves.

In the dairy the spacious cooler is also a very valuable asset. Dairy products now offered to the public are in perfect condition. There is no comparison to be made between the old and new method of cooling the milk.

Then, too, there is the water system, with its 50-gallon capacity heater. Too much can not be said for the benefits derived from this appliance. Hot water is always available for bottle washing. It is simple to operate, and the supply of water is constant.

It would be an easy task to enumerate the many other labor-saving devices which have supplanted older methods, but it is hard to measure all of the benefits secured from electricity.

Many people have visited this demonstration farm, which is the first of its kind in New England. Their interest has been keen as they have actually seen the faultless working of the many important units, and the improved sanitary condition in general of the entire farm.

Mrs. Willard Slade,
Hubbardston, Mass.

CLASSIFIED ADVERTISING

The LYON ELECTRIC COMPANY manufacture electric poultry equipment exclusively. Long, practical experience in the highly developed California rural electric field enables us to furnish quality devices at reasonable prices. The LYON line includes: Brooders—Incubators — Egg Testers — Burglar, Temperature and Power-off Alarms — Heating Elements—Thermostatic Supplies—Time Switches—Wiring Supplies. Write for catalog today. LYON ELECTRIC COMPANY, 2075 Moore Street, San Diego, California.